

WHAT IS CLAIMED IS:

1. An exposure apparatus comprising:
a reflective element for reflecting and
5 introducing light from a light source to a plate;
at least one first driver for providing the
reflective element with a force and/or a displacement
in at least one directions; and
at least one second driver for providing the
10 reflective element with a force and/or a displacement
in at least one directions, wherein said first and
second drives are connected in series to each other.
2. An exposure apparatus according to claim 1,
15 wherein the first and second drives provide the
reflective element with the displacements, and a
minimum unit of a displacement amount by said second
driver is smaller than that by said first driver.
- 20 3. An exposure apparatus according to claim 1,
wherein a minimum unit of a displacement amount by said
first driver is larger than double of a minimum unit of
a displacement amount by said second driver.
- 25 4. An exposure apparatus according to claim 1,
wherein said second driver has higher control precision
than said first driver.

5. An exposure apparatus according to claim 1,
wherein said second driver has a higher control
frequency than said first driver.

5 6. An exposure apparatus according to claim 1,
further comprising:

a first measurement unit for measuring a
displacement amount of the reflective element by said
first driver; and

10 a second measurement unit for measuring a
displacement amount of the reflective element by said
second driver.

7. An exposure apparatus according to claim 1,
15 further comprising:

a first measurement unit for measuring a
relative position between one end and another end of
said first driver; and

a second measurement unit for measuring a
20 relative position between one end and another end of
said second driver.

8. An exposure apparatus according to claim 1,
wherein said exposure apparatus is a scanning exposure
25 apparatus that provides exposure by relatively scanning
the original form and the plate.

9. An exposure apparatus according to claim 1,
wherein an optical path from the light source to the
plate is maintained substantially vacuum.

5 10. An exposure apparatus according to claim 1,
wherein the light from the light source has a
wavelength between 13 and 14 nm.

11. An exposure apparatus according to claim 1,
10 further comprising:

 a projection optical system, provided with
said reflective element, for introducing to the plate
light from the pattern illuminated by the light from
the light source; and

15 a wave front aberration measurement unit for
measuring wave front aberration in said projection
optical system, wherein the reflective element is
driven based on a measurement result by said wave front
aberration measurement unit.

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12. An exposure apparatus according to claim 1,
further comprising:

 a projection optical system, provided with
said reflective element, for introducing to the plate
25 light from the pattern illuminated by the light from
the light source;

a wave front aberration measurement unit for measuring wave front aberration in said projection optical system; and

a corrective drive amount calculator for
5 calculating a corrective drive amount for the reflective element based on a measurement value by the wave front aberration measurement unit.

13. An exposure apparatus according to claim 11,
10 wherein said projection optical system includes plural reflective elements, and the corrective drive amount is selectively provided to the plural reflective elements.

14. An exposure apparatus according to claim 11,
15 further comprising a stage for mounting and driving the plate, wherein said wave front aberration measurement unit is provided on the stage.

15. An exposure apparatus according to claim 11,
20 further comprising a stage for mounting and driving the original form, wherein said wave front aberration measurement unit is provided on the stage.

16. A device fabrication method comprising the
25 steps of:
exposing a plate using an exposure apparatus;
and

developing the plate that has been exposed,
wherein the exposure apparatus includes:
an illumination optical system for
illuminating a pattern on an original form using light
5 from a light source;
a projection optical system for introducing
light from the pattern on the original form to the
plate;
at least one first driver for providing a
10 reflective element that reflects light from the light
source to the plate, with a force and/or a displacement
in at least one directions; and
at least one second driver for providing the
reflective element with a force and/or a displacement
15 in at least one directions.

17. An exposure apparatus for introducing light
from a light source to a plate, said exposure apparatus
comprising:
20 a barrel;
a support member;
a reflective element for reflecting light
from the light source to the plate;
at least one first driver, connected to said
25 barrel and support member, for providing a force and/or
a displacement in at least one directions; and

at least one second driver, connected to said barrel and reflective element, for providing a force and/or a displacement in at least one directions.

5 18. An exposure apparatus according to claim 17, wherein the first and second drives provide the reflective element with the displacements, and a minimum unit of a displacement amount by said second driver is smaller than that by said first driver.

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 19. An exposure apparatus according to claim 17, wherein a minimum unit of a displacement amount by said first driver is twice as large as that by said second driver.

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 20. An exposure apparatus according to claim 17, further comprising:

 a third measurement unit for measuring a displacement amount of the reflective element by said
20 first and second drivers; and

 a fourth measurement unit for measuring a displacement amount of the reflective element by said second driver, wherein said third measurement unit measures positional changes of the reflective element
25 and the barrel, and the fourth measurement unit measures positional changes of the support member and the barrel.

21. A device fabrication method comprising the steps of:

exposing a plate using an exposure apparatus;

and

5 developing the plate that has been exposed,
wherein the exposure apparatus includes:

a barrel;

a support member;

a reflective element for reflecting light

10 from the light source to the plate;

at least one first driver, connected to said
barrel and support member, for providing a force and/or
a displacement in at least one directions; and

15 at least one second driver, connected to said
barrel and reflective element, for providing a force
and/or a displacement in at least one directions.